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NEWS	2	Sep 17	IMSworld Pharmaceutical Company Directory name change to PHARMASEARCH
NEWS	3	Oct 09	Korean abstracts now included in Derwent World Patents Index
NEWS	4	Oct 09	Number of Derwent World Patents Index updates increased
NEWS	5	Oct 15	Calculated properties now in the REGISTRY/ZREGISTRY File
NEWS	6	Oct 22	Over 1 million reactions added to CASREACT
NEWS	7	Oct 22	DGENE GETSIM has been improved
NEWS	8	Oct 29	AAASD no longer available
NEWS	9	Nov 19	New Search Capabilities USPATFULL and USPAT2
NEWS	10	Nov 19	TOXCENTER(SM) - new toxicology file now available on STN
NEWS	11	Nov 29	COPPERLIT now available on STN
NEWS	12	Nov 29	DWPI revisions to NTIS and US Provisional Numbers
NEWS	13	Nov 30	Files VETU and VETB to have open access
NEWS	14	Dec 10	WPINDEX/WPIDS/WPIX New and Revised Manual Codes for 2002
NEWS	15	Dec 10	DGENE BLAST Homology Search
NEWS	16	Dec 17	WELDASEARCH now available on STN
NEWS	17	Dec 17	STANDARDS now available on STN
NEWS	18	Dec 17	New fields for DPCI
NEWS	19	Dec 19	CAS Roles modified
NEWS	20	Dec 19	1907-1946 data and page images added to CA and Cplus
NEWS	21	Jan 25	BLAST(R) searching in REGISTRY available in STN on the Web
NEWS	22	Jan 25	Searching with the P indicator for Preparations
NEWS	23	Jan 29	FSTA has been reloaded and moves to weekly updates
NEWS	24	Feb 01	DKILIT now produced by FIZ Karlsruhe and has a new update frequency
NEWS	25	Feb 19	Access via Tymnet and SprintNet Eliminated Effective 3/31/02
NEWS	26	Mar 08	Gene Names now available in BIOSIS
NEWS EXPRESS			February 1 CURRENT WINDOWS VERSION IS V6.0d, CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP), AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002
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L1 1598 XYLITOL#

=> s crystal?  
L2 16473 CRYSTAL?

=> s l1 and l2  
L3 128 L1 AND L2

=> s l1/ti  
L4 503 L1/TI

=> s l4 and l2  
L5 37 L4 AND L2

=> d 1-37 all

L5 ANSWER 1 OF 37 FSTA COPYRIGHT 2002 IFIS

AN 2000(06):L0276 FSTA

TI **Crystallization of xylitol, crystalline**  
product and use thereof.

IN Heikkila, H.; Nygren, J.; Sarkki, M. L.; Gros, H.; Eroma, O. P.; Pearson, J.; Pepper, T.

PA Xyrofin Oy; Xyrofin, FIN-48101 Kotka, Finland

SO PCT International Patent Application, (1999)

PI WO 9959426 A2

PRAI FI 1998-1104 19980518

DT Patent

LA English

AB A process for **crystallization** of xylitol is described and novel properties of the **crystalline** product and its uses in confectionery, foods, pharmaceuticals and oral hygiene products are detailed. The **crystallization** process involves: contact between a xylitol solution and xylitol particles suspended in a gas; production of microcrystals; and conditioning into an agglomerated product.

CC L (Sugars, Syrups and Starches)

CT BAKERY PRODUCTS; **CRYSTALLIZATION**; PATENTS; SUGAR CONFECTIONERY; XYLITOL; CONFECTIONERY; FOODS

L5 ANSWER 2 OF 37 FSTA COPYRIGHT 2002 IFIS

AN 2000(03):L0128 FSTA

TI Bagasse-to-xylitol process: preliminary testing.

AU Saska, M.; Chen, F.; Vatelot, A.

CS Audubon Sugar Inst., Louisiana State Univ. Agric. Cent., Baton Rouge, LA 70803, USA

SO International Sugar Journal, (1999), 101 (1207) 353-354, 356-358, 14 ref.  
ISSN: 0020-8841

DT Journal

LA English

SL French; Spanish

AB Xylitol is a big-value speciality sweetener, and a potentially lucrative product of excess bagasse, but no commercial bagasse-to-xylitol production facilities have been established as yet, except for one in China. Evaluation of the principal steps of a bagasse-to-xylitol process was undertaken at the Audubon Sugar Institute pilot facilities [Louisiana, USA]. Although far from optimized, tests indicated that no insurmountable technical difficulties exist, although a considerable amount of work remains to be done with respect to hydrogenation of purified bagasse-based xylose liquors, the effect of remaining impurities in these liquors on the life and re-use of the hydrogenation catalysts, and the **crystallization** of xylitol from the hydrogenated liquors.

CC L (Sugars, Syrups and Starches)

CT CANE SUGAR; PROCESSING; XYLITOL; BAGASSE

  

L5 ANSWER 3 OF 37 FSTA COPYRIGHT 2002 IFIS

AN 1996(04):B0098 FSTA

TI **Xylitol** recovery from fermented sugarcane bagasse hydrolyzate.

AU Gurgel, P. V.; Mancilha, I. M.; Pecanha, R. P.; Siqueira, J. F. M.

CS Cent. de Desenvolvimento Biotec., PO Box 7151, 89239-970 Pirabeiraba, Joinville, SC, Brazil

SO Bioresource Technology, (1995), 52 (3) 219-223, 9 ref.  
ISSN: 0960-8524

DT Journal

LA English

AB Xylitol can be produced by fermentation of acid-hydrolysed sugar cane bagasse hemicelluloses using *Candida guilliermondii* FTI 20037. Xylitol is produced at low yields in these fermentation broths, and the final broths are often of a complex composition; factors which hinder the downstream processing of this polyol. A downstream processing method for recovery of xylitol was evaluated. Fermentations were allowed to proceed until exhaustion of fermentable sugars (approx. 70 h), after which broths were centrifuged to separate out suspended cell material. Fermentation broth supernatants were then clarified using activated C. The clarification process was optimized with respect to pH, temp., contact time and C concn. Optimal clarification treatment was achieved by adding 25 g activated C to 100 ml supernatant for 60 min at pH 6.0 and 80.degree.C. Clarified xylitol solutions were further treated with ion exchange resins and finally xylitol was **crystallized** out of solution. It is concluded that the clarification treatment is effective in the downstream processing of xylitol but that ion exchange treatment was not effective.

CC B (Biotechnology)

CT ALCOHOLS; BIOTECHNOLOGY; CANDIDA; CARBOHYDRATES; DOWNSTREAM PROCESSING; FERMENTATION; FERMENTATION PRODUCTS; FUNGI; POLYOLS; SOUPS; XYLITOL; BROTHS; SUGAR ALCOHOLS

  

L5 ANSWER 4 OF 37 FSTA COPYRIGHT 2002 IFIS

AN 1993(12):A0032 FSTA

TI Dual relationships of **xylitol** and alcohol dehydrogenases in families of two protein types.

AU Persson, B.; Hallborn, J.; Walfridsson, M.; Hahn-Haegerdal, B.; Keraenen, S.; Penttila, M.; Joernvall, H.

CS Correspondence (Reprint) address, H. Joernvall, Dep. of Chem. I, Karolinska Inst., S-104 01 Stockholm, Sweden

SO FEBS Letters, (1993), 324 (1) 9-14, 24 ref.  
ISSN: 0014-5793

DT Journal

LA English

AB [The structure of *Pichia stipitis* xylitol dehydrogenase was examined in relation to structures of known forms of alcohol, sorbitol and threonine dehydrogenases and .zeta.-**crystallin**.] Xylitol dehydrogenase, encoded by gene XYL2 in *P. stipitis*, is a member of the medium-chain alcohol dehydrogenase family, as evidenced by domain organization and a distant homology (24% residue identity with human class I.sub..gamma..sub.1 alcohol dehydrogenase). Much of a loop structure is missing, in common with mammalian sorbitol and prokaryotic threonine dehydrogenases; many additional differences occur, and relationships are closest with sorbitol dehydrogenase, the equivalence of which in *P. stipitis* may actually be xylitol dehydrogenase. A 2nd *P. stipitis* gene, also cloned and corresponding to a xylitol dehydrogenase, is highly different from XYL2, but encodes an enzyme with structural properties typical of the short-chain dehydrogenase family, which also contains an alcohol dehydrogenase (from *Drosophila*). Thus, yeast xylitol dehydrogenases, like alcohol and polyol dehydrogenases from other sources, have dual derivations, combining similar enzyme activities in separate protein families. In contrast to the situation with the other enzymes, both forms of xylitol dehydrogenase are present in a single organism.

CC A (Food Sciences)

CT DEHYDROGENASES; ENZYMES; PICHIA; XYLITOL; YEASTS

L5 ANSWER 5 OF 37 FSTA COPYRIGHT 2002 IFIS

AN 1993(11):K0022 FSTA

TI Hard candies containing **xylitol** and other sugar alcohols having reduced tack.

IN Taskinen, S.

PA Huhtamaki Oy; Huhtamaki, Turku, Finland

SO United States Patent, (1993)

PI US 5223303

PRAI FI 1990-5133 19901018

DT Patent

LA English

AB **Crystalline** xylitol at carefully controlled temp. and in carefully monitored amounts is added to a melt containing xylitol and other sugar alcohols (e.g. maltitol and lactitol), and hydrogenated glucose syrup, to produce hard candies with low tack and good dimensional stability. [From En summ.]

CC K (Cocoa and Chocolate and Sugar Confectionery Products)

CT ALCOHOLS; CARBOHYDRATES; PATENTS; POLYOLS; SUGAR CONFECTIONERY; XYLITOL; CANDY; SUGAR ALCOHOLS

L5 ANSWER 6 OF 37 FSTA COPYRIGHT 2002 IFIS

AN 1993(09):L0043 FSTA

TI Production of **xylitol** from sugar cane bagasse.

AU Manalo, J. B.; Boyles, A.; Ambal, W. O.; Estrella, R. R.

SO Philippine Journal of Science, (1992), 121 (2) 181-208, 15 ref.  
ISSN: 0031-7683

DT Journal

LA English

AB A process for production of xylitol from sugar cane bagasse (and, in a side trial, from corn cobs) was evaluated. The method consisted of washing ground bagasse with water and NaOH, hydrolysis with 5 and then 2% H.sub.2SO.sub.4, removal of colour impurities with activated C, electrolytic reduction of xylose to xylitol, and purification (by filtration, activated carbon and ion-exchange treatments), evaporation and **crystallization** of xylitol. Data are presented for composition of sugar cane bagasse (ash, lignin, pentosans, fats, moisture and cellulose) and properties (solubility at 25.degree.C, m.p., colour in solution, acidity, residue on ignition and levels of trace metals) of xylitol **crystals**.

CC L (Sugars, Syrups and Starches)

CT CANE SUGAR; CARBOHYDRATES; POLYOLS; SUGAR; XYLITOL; SUGAR ALCOHOLS; SUGAR CANE BAGASSE

L5 ANSWER 7 OF 37 FSTA COPYRIGHT 2002 IFIS  
AN 1993(04):L0030 FSTA  
TI Melt cocrystallized sorbitol/**xylitol** compositions.  
IN DuRoss, J. W.  
PA ICI Americas Inc.; ICI Americas, Wilmington, DE, USA  
SO United States Patent, (1992)  
PI US 5158789  
PRAI US @@@@-742966 19910809  
DT Patent  
LA English  
AB Cocrystallization of sorbitol/**xylitol** (wt. ratio 99:1-1:99) mixtures and use of such mixtures in food products (e.g. chewing gums) are described. Cocrystallization by gradual cooling from a homogeneous molten blend (initially with agitation) improves processing properties relative to separate **crystallization** of sorbitol and **xylitol**.  
CC L (Sugars, Syrups and Starches)  
CT CARBOHYDRATES; CHEWING GUMS; **CRYSTALLIZATION**; PATENTS; POLYOLS; PROCESSING; SORBITOL; SUGAR CONFECTIONERY; XYLITOL; SUGAR ALCOHOLS

L5 ANSWER 8 OF 37 FSTA COPYRIGHT 2002 IFIS  
AN 1993(03):L0031 FSTA  
TI Shelf stable liquid **xylitol** compositions.  
IN Pepper, T.; Keipinen, P.  
PA Pepper, Twickenham TW1 3EP, UK  
SO United States Patent, (1992)  
PI US 5144024  
PRAI US @@@@-596064 19901011  
DT Patent  
LA English  
AB A non-**crystallizing** liquid **xylitol** composition and its preparation are described. The composition has a dry solids content of 60-80%, comprising 50-90% **xylitol** and 10-50% non-**xylitol** monomeric or dimeric polyols (e.g. maltitol, sorbitol, mannitol and/or glycerol). Both the **xylitol** and a portion of the non-**xylitol** components may be derived from run-off from a **xylitol** **crystallization** process. Non-**xylitol** components may also be derived from pure **crystalline** solutions or polyol syrups.  
CC L (Sugars, Syrups and Starches)  
CT CARBOHYDRATES; PATENTS; POLYOLS; XYLITOL; SUGAR ALCOHOLS

L5 ANSWER 9 OF 37 FSTA COPYRIGHT 2002 IFIS  
AN 1993(03):K0024 FSTA  
TI Melt **crystallized** **xylitol**.  
IN DuRoss, J. W.  
PA ICI Americas Inc.; ICI Americas, Wilmington, DE, USA  
SO United States Patent, (1992)  
PI US 5139795  
PRAI US @@@@-743487 19910809  
DT Patent  
LA English  
AB Melt **crystallized** **xylitol** (MCX) for use in chewing gum or tablet preparations is described. MCX is characterized by an agglomerated **crystal** structure with a surface area of at least 0.12 m.sup.2 g.sup.-.sup.1, as determined by SEM, and a relatively high hardness value on compression. Chewing gums containing MCX are less sticky and gritty than those containing equal amounts of conventional aqueous **crystallized** **xylitol** of similar particle size distribution.  
CC K (Cocoa and Chocolate and Sugar Confectionery Products)  
CT CARBOHYDRATES; CHEWING GUMS; PATENTS; POLYOLS; SUGAR CONFECTIONERY;

# XYLITOL; SUGAR ALCOHOLS

- L5 ANSWER 10 OF 37 FSTA COPYRIGHT 2002 IFIS  
 AN 1992(04):B0138 FSTA  
 TI A metal-mediated hydride shift mechanism for xylose isomerase based on the 1.6 [Angstrom] Streptomyces rubiginosus structures with **xylitol** and D-xylose.  
 AU Whitlow, M.; Howard, A. J.; Finzel, C.; Poulos, T. L.; Winborne, E.; Gilliland, G. L.  
 CS Dep. of Protein Eng., Genex Corp., 16020 Industrial Dr., Gaithersburg, MD 20877, USA  
 SO Proteins: Structure, Function and Genetics, (1991), 9 (3) 153-173, 63 ref. ISSN: 0887-3585  
 DT Journal  
 LA English  
 AB The **crystal** structure of recombinant Streptomyces rubiginosus D-xylose isomerase (D-xylose keto-isomerase, EC 5.3.1.5) solved by the multiple isomorphous replacement technique was refined to R = 0.16 at 1.64 Angstrom resolution. Xylose isomerase is a tetramer of 4 identical subunits. The monomer consists of an 8-stranded parallel .beta.-barrel surrounded by 8 helices with an extended C-terminal tail that provides extensive contacts with a neighbouring monomer. The active site pocket is defined by an opening in the barrel whose entrance is lined with hydrophobic residues while the bottom of the pocket consists mainly of glutamate, aspartate, and histidine residues coordinated to 2 manganese ions. Structures of the enzyme in the presence of MnCl.sub.2, the inhibitor xylitol, and the substrate D-xylose in the presence and absence of MnCl.sub.2 are described, and a detailed mechanism for D-xylose isomerase is proposed. This mechanism accounts for the majority of xylose isomerase's biochemical properties, including: the lack of solvent exchange between the 2-position of D-xylose and the 1-pro-R position of D-xylulose; the chemical modification of histidine and lysine; the pH vs. activity profile; and the requirement for 2 divalent cations in the mechanism. [From En summ.]  
 CC B (Biotechnology)  
 CT BACTERIA; ENZYMES; ISOMERASES; STREPTOMYCES; SUGARS; ACTINOMYCETALES; XYLOSE
- L5 ANSWER 11 OF 37 FSTA COPYRIGHT 2002 IFIS  
 AN 1992(03):L0041 FSTA  
 TI Hard candy containing **xylitol** and a process for the manufacture thereof.  
 IN Oravainen, J.; Yli-Kyyny, M.  
 PA Suomen Xyrofin Oy; Suomen Xyrofin, Helsinki, Finland  
 SO PCT International Patent Application, (1991)  
 PI WO 9107100 A1  
 PRAI FI 1989-5495 19891117  
 DT Patent  
 LA English  
 AB The production and composition of a hard candy with a novel sweetening agent are described. The sweetener consists of 30-70% by wt. of xylitol, the remainder being .gtoreq.1 of sorbitol, maltitol, isomalt and lactitol. The candy, which can also contain a specified level of intensive sweeteners, is manufactured by melting 35-80% of the sweetener at 120-175.degree.C, cooling to 95-135.degree.C, adding remaining sweetener (as a **crystalline** or powdered solid) and other ingredients, and forming using recognized procedures.  
 CC L (Sugars, Syrups and Starches)  
 CT ADDITIVES; PATENTS; POLYOLS; SUGAR CONFECTIONERY; SWEETENERS; XYLITOL; CANDY; INTERNATIONAL
- L5 ANSWER 12 OF 37 FSTA COPYRIGHT 2002 IFIS

AN 1985(09):T0017 FSTA  
TI Properties of **xylitol**.  
AU Voirol, F.  
CS Xyrofin Ltd., Clara-Strasse 12, CH 4058 Basel, Switzerland  
SO Canadian Institute of Food Science and Technology Journal, (1985), 18 (1)  
xii-xiii  
DT Journal  
LA English  
AB This article summarizes the basic technological data available on xylitol to enable informed decisions to be made regarding its potential use. The properties of some natural sugars (sucrose, dextrose, fructose) and sugar alcohols (sorbitol, xylitol) are compared and also shown in a table. Properties of xylitol of interest include, as compared to sucrose: non-cariogenicity; same sweetness and calories as sucrose; solubility at 30.degree. C the same as sucrose but at higher and lower temp. its solubility increases and decreases resp.; dissolution energy 34.8 cal/g (vs. 4.3 for sucrose) giving a 'cool' taste, and a temp. drop in e.g. sweetened beverages; **crystallization** properties, giving solutions of low viscosity etc.; and suitability for diabetic foods. Xylitol is considered safe for human consumption within reasonable limits but a recommended max. dose is 30 g/day.  
CC T (Additives, Spices and Condiments)  
CT SWEETENERS; XYLITOL

L5 ANSWER 13 OF 37 FSTA COPYRIGHT 2002 IFIS  
AN 1983(09):T0501 FSTA  
TI Food technological evaluation of **xylitol**.  
AU Hyvoenen, L.; Koivistoinen, P.; Voirol, F.  
CS Dep. of Food Chem. & Tech., Univ. of Helsinki, Helsinki, Finland  
SO Advances in Food Research, (1982), 28, 373-403, 80 ref.  
DT General Review  
LA English  
AB This comprehensive review covers the following aspects of xylitol: natural occurrence, history and large-scale xylitol production; physicochemical properties (structure, **crystallization**, b.p., specific heat, solubility, heat of solution, viscosity, density, hygroscopicity) and food technological properties (caloric value, browning reactions, fermentation, sweetness); food applications - in sugar confectionery, ice-cream, yoghurt, jams, jellies and marmalades, bakery products, and drinks; future outlook; and research needs.  
CC T (Additives, Spices and Condiments)  
CT REVIEWS; SWEETENERS; XYLITOL; FOODS; REVIEW

L5 ANSWER 14 OF 37 FSTA COPYRIGHT 2002 IFIS  
AN 1981(10):L0712 FSTA  
TI Process for recovering **xylitol** from end syrups of the **xylitol crystallization**.  
IN Munir, M.; Schiweck, H.  
PA Sueddeutsche Zucker AG  
SO United States Patent, (1981)  
PI US 4246431  
DT Patent  
LA English  
AB Process is described for extracting xylitol from the end syrups of xylitol **crystallization** by subjecting the end syrup to chromatographic separation, the syrup being degraded into .gtoreq.2 fractions, the 1st fraction containing mainly polysaccharides and polysaccharide alcohols, and the subsequent fractions mainly containing the pentitols and hexitols.  
CC L (Sugars, Syrups and Starches)  
CT **CRYSTALLIZATION**; PATENTS; SUGAR SYRUPS; SWEETENERS; XYLITOL; PATENT; RECOVERY; SYRUPS

L5 ANSWER 15 OF 37 FSTA COPYRIGHT 2002 IFIS  
 AN 1981(06):L0390 FSTA  
 TI The microbiological purification of **xylitol** from mixtures of polyols prepared from hydrogenated *Pinus radiata* hydrolysates.  
 AU Bielby, R.; Gallagher, I. H. C.; Craig, J.  
 CS Chem. Dep., Victoria Univ. of Wellington, PO Box 27007, Wellington, New Zealand  
 SO New Zealand Journal of Science, (1980), 23 (2) 177-178, 4 ref.  
 DT Journal  
 LA English  
 AB By using the bacterium *Lactobacillus salivarius* subsp. *salicinius*, L-arabinitol was selectively fermented in artificial mixtures with xylitol, leading to a simple method for the recovery of xylitol in the **crystalline** state from spent culture supernatant. Specific metabolism of L-arabinitol was also demonstrated in a hydrogenated pentosan hydrolysate from *Pinus radiata*. Thus, preparation and microbiological purification of xylitol from readily available softwood pentosans is feasible on a laboratory scale and may be adaptable to commercial production.  
 CC L (Sugars, Syrups and Starches)  
 CT CARBOHYDRATES; MICROBIOLOGY; POLYOLS; POLYSACCHARIDES; PROCESSING; SWEETENERS; XYLITOL; PENTOSANS; SOFTWOOD # MICROBIOLOGICAL

L5 ANSWER 16 OF 37 FSTA COPYRIGHT 2002 IFIS  
 AN 1977(08):T0463 FSTA  
 TI **Xylitol**, its occurrence, manufacture and uses.  
 AU Anon.  
 SO British Food Journal, (1976), 78 (875) 172-173, 175, 9 ref.  
 DT Journal  
 LA English  
 AB Xylitol is an aliphatic straight chain pentitol; the reduction product of the pentose, xylose. It occurs naturally in small amounts in fruit and vegetables (935 mg/100 g in yellow plums) but is prepared commercially from wood hemicelluloses. Xylitol does not react in the Maillard and caramelization browning reactions typical of reducing sugars. It is less sweet than sucrose when tasted in conjunction with a number of fruit acids, and may have textural effects due to its **crystallization** properties; it has no glassy state, and **crystallization** rates differ from those of sucrose. Possible uses are numerous, and include 1:1 replacement of sucrose in soft drinks, chocolate and confectionery products such as creams and jellies, and incorporation into baked goods and preserves.  
 CC T (Additives, Spices and Condiments)  
 CT SWEETENERS; XYLITOL

L5 ANSWER 17 OF 37 FSTA COPYRIGHT 2002 IFIS  
 AN 1976(11):U0673 FSTA  
 TI [Food-grade **xylitol**.]  
 CS Union of Soviet Socialist Republics, Gosudarstvennyi Komitet Standartov  
 SO Soviet Standard, (1975), GOST 20710-75, 11pp.  
 DT Standard  
 LA Russian  
 AB The standard applies to **crystalline**, food-grade xylitol obtained from pentosan-containing vegetable raw material (cottonseed husks, corncob stems) and intended as a sugar substitute for diabetics. 25 g xylitol must be fully soluble in 50 ml water at 20.degree.C. 1st and 2nd grade xylitol shall contain .ltoreq.1.5 and .ltoreq.2% moisture, respectively; the reducing substances and ash contents shall be .ltoreq.0.08% (in terms of DM); the mp shall be 90-94.degree.C, and the pH 4.5-7.5, and there is no tolerance for Ni or Pb. The standard also covers testing, packaging, transport and storage. After expiration of the guaranteed shelf life (1 yr), the xylitol shall be retested prior to use.



CC U (Standards, Laws and Regulations)  
CT DIETETIC FOODS; POLYOLS; STANDARDS; SWEETENERS; XYLITOL; REQUIREMENTS #  
DIETETIC; UNION OF SOVIET SOCIALIST REPUBLICS; USSR

L5 ANSWER 18 OF 37 FSTA COPYRIGHT 2002 IFIS  
AN 1976(01):T0035 FSTA  
TI [**Xylitol** as a sugar substitute.]  
Zur Bedeutung des Zuckeralkohols Xylit als Zuckeraustauschstoff.  
AU Gruette, F.-K.; Roedel, H.  
CS Zentralinst. fuer Ernaehrung, Potsdam-Rehbruecke, German Democratic  
Republic  
SO Ernaehrungsforschung, (1975), 20 (3) 74-79  
DT Journal  
LA German  
AB The suitability of xylitol for use as a sugar substitute is discussed,  
with reference to its sweetness, solubility, **crystallization**  
characteristics, physicochemical properties, processing characteristics,  
toxicology and digestibility. Use of xylitol in bakery products, chocolate  
products and soft drinks (especially those for diabetics) is discussed,  
with reference to effects on organoleptic properties. Xylitol (which is  
fully digestible) is not suitable for use in calorie-reduced foods.

CC T (Additives, Spices and Condiments)  
CT BAKERY PRODUCTS; BEVERAGES; CALORIES; CHOCOLATE; CHOCOLATE PRODUCTS;  
DISEASES; SOFT DRINKS; SWEETENERS; XYLITOL; DIABETES; DIABETIC; FOODS; LOW

L5 ANSWER 19 OF 37 FSTA COPYRIGHT 2002 IFIS  
AN 1974(10):L0784 FSTA  
TI [Jam prepared with sorbitol and **xylitol**.]  
AU Kamneva, A. P.; Lisakova, N. P.  
CS Ukrainskii Nauchno-issled. Inst. Konservnoi Promyshlennosti, USSR  
SO Konservnaya i Ovoshchesushil'naya Promyshlennost', (1973), No. 7, 16-17  
DT Journal  
LA Russian  
AB Dietary jam preparation with sorbitol and xylitol was investigated. For  
plum jam preparation the fruit was blanched in water for 5 min at  
80-85.degree.C and held for 10 min at a pressure of 3.33 kPa in sorbitol  
or xylitol-containing syrup. For each 110 parts of fruit 100 parts of  
sorbitol or xylitol were used, with possibly an addition of 0.4-0.8% of  
pectin. Highly esterified (71.6%) pectin of Hungarian origin was used,  
(value 200 jellification units according to Tarr-Baker). The production  
process is briefly described, including assessment of the jam quality and  
proposed quality standards. A mixture of sorbitol and xylitol in the ratio  
1:1 or 1:2 proved to be satisfactory from the point of view of jam flavour  
and appearance. The plum jam contained 60.4% DM, 0.61% of acid, 6.66%  
total sugars, 3.61% glucose, 1.71% fructose, 0.49% soluble pectin, 0.254%  
insoluble pectin, 29.18% xylitol and 26.5% sorbitol. The composition of  
the jam did not change substantially after a yr of storage except for a  
small drop in the content of total pectin. The proposed standard  
stipulates .gtoreq.59% DM, 0.5-0.8% acid (as malic acid), .ltoreq.7% total  
sugars, and .ltoreq.10 mg/kg Cu. **Crystals** of sorbitol and  
xylitol are not permitted. A formula for DM calculation is presented with  
respect to the optical properties of sorbitol and xylitol.

CC L (Sugars, Syrups and Starches)  
CT DIETETIC FOODS; FLAVOUR; PLUMS; SENSORY PROPERTIES; SHELF LIFE; SORBITOL;  
XYLITOL; DIETARY; JAM; KEEPING QUALITY; ORGANOLEPTIC PROPERTIES; PLUM;  
PLUM JAM; SUGARS (SPECIFIC)

L5 ANSWER 20 OF 37 FROSTI COPYRIGHT 2002 LFRA  
AN 559654 FROSTI  
TI Non-**crystallizing** liquid **xylitol** compositions and  
co-hydrogenation processes for making same.  
IN Cunningham M.L.; Kuenzle C.E.; Yang M.; Jamieson P.

PA SPI Polyols Inc.  
 SO European Patent Application  
 PI EP 1112004 A1 20000323  
 AI 19990909  
 PRAI United States 19980910  
 NTE 20000323  
 DT Patent  
 LA English  
 SL English  
 AB A non-**crystallizing** liquid xylitol composition is described.  
 The composition comprises cohydrogenated xylitol and sorbitol and can be  
 used in dental products, confectionery, chewing gum and fruit syrup.  
 SH ADDITIVES  
 CT CHEWING GUM; CONFECTIONERY; EMULSIFIERS; EUROPEAN PATENT; FRUIT PRODUCTS;  
 FRUIT SYRUPS; HUMECTANTS; HYDROGENATION; PATENT; POLYOLS; SORBITOL; SUGAR  
 CONFECTIONERY; SURFACTANTS; SWEETENERS; XYLITOL  
 DED 31 Jul 2001

L5 ANSWER 21 OF 37 FROSTI COPYRIGHT 2002 LFRA  
 AN 551930 FROSTI  
 TI **Crystallization of xylitol, crystalline**  
**xylitol** product and use thereof.  
 IN Heikkila H.; Nygren J.; Sarkki M.-L.; Gros H.; Eroma O.-P.; Pearson J.;  
 Pepper T.  
 PA Xyrofin Oy  
 SO European Patent Application  
 PI EP 1080060 A2  
 WO 9959426 19991125  
 AI 19990517  
 PRAI Finland 19980518  
 DT Patent  
 LA English  
 SL English  
 AB A novel process for the production of **crystalline** xylitol  
 suitable for food and pharmaceutical applications is presented. Among  
 the advantages offered by the process are that it requires only a single  
 operation, the product is of food and pharmaceutical quality, and  
 efficiency is improved. The patent application also covers the  
**crystalline** xylitol product and novel edible, pharmaceutical and  
 oral hygiene products containing xylitol. Specific applications quoted  
 include the total or partial replacement of sucrose in confectionery,  
 bakery products, cereals, desserts, jams and beverages. Preferred  
 embodiments include chocolate, granulated or table-top sweeteners,  
 chewing gums and ice creams.  
 SH ADDITIVES  
 CT APPLICATIONS; **CRYSTALLINE** XYLITOL; EUROPEAN PATENT; PATENT;  
 POLYOLS; PRODUCTION; SWEETENERS; TABLE TOP SWEETENERS; XYLITOL  
 DED 15 May 2001

L5 ANSWER 22 OF 37 FROSTI COPYRIGHT 2002 LFRA  
 AN 523354 FROSTI  
 TI Low temperature non-**crystallizing** liquid **xylitol**  
 compositions and co-hydrogenation processes for making same.  
 IN Cunningham M.L.; Kuenzle C.E.; Yang M.; Jamieson P.  
 PA SPI Polyol Inc.  
 SO PCT Patent Application  
 PI WO 2000015236 A1 20000323  
 AI 19990909  
 PRAI United States 19980910  
 NTE 20000323  
 DT Patent  
 LA English

SL English

AB Liquid xylitol compositions that are non-**crystallizing** at low temperatures comprise xylitol and sorbitol. These are useful in confectionery products such as chewing gum and candies. A co-hydrogenation process for producing these compositions is also described.

CT CONFECTIONERY; EMULSIFIERS; HUMECTANTS; PATENT; PCT PATENT; POLYOLS; SORBITOL; SURFACTANTS; SWEETENERS; XYLITOL

DED 9 Jun 2000

  

L5 ANSWER 23 OF 37 FROSTI COPYRIGHT 2002 LFRA

AN 523343 FROSTI

TI Non-**crystallizing** liquid **xylitol** compositions and co-hydrogenation processes for making same.

IN Cunningham M.L.; Kuenzle C.E.; Yang M.; Jamieson P.

PA SPI Polyol Inc.

SO PCT Patent Application

PI WO 2000015048 A1 20000323

AI 19990909

PRAI United States 19980910

NTE 20000323

DT Patent

LA English

SL English

AB A non-**crystallizing** liquid xylitol composition is described. The composition comprises cohydrogenated xylitol and sorbitol and can be used in dental products, confectionery, chewing gum and fruit syrup.

SH ADDITIVES

CT CHEWING GUM; CONFECTIONERY; EMULSIFIERS; FRUIT PRODUCTS; FRUIT SYRUPS; HUMECTANTS; HYDROGENATION; PATENT; PCT PATENT; POLYOLS; SORBITOL; SUGAR CONFECTIONERY; SURFACTANTS; SWEETENERS; XYLITOL

DED 9 Jun 2000

  

L5 ANSWER 24 OF 37 FROSTI COPYRIGHT 2002 LFRA

AN 517925 FROSTI

TI **Crystallization of xylitol, crystalline xylitol** product and use thereof.

IN Heikkila H.; Nygren J.; Sarkki M.-L.; Gros H.; Eroma O.-P.; Pearson J.; Pepper T.

PA Xyrofin Oy

SO PCT Patent Application

PI WO 9959426 A2

AI 19990517

PRAI Finland 19980518

DT Patent

LA English

SL English

AB A novel process for the production of **crystalline** xylitol suitable for food and pharmaceutical applications is presented. Among the advantages offered by the process are that it requires only a single operation, the product is of food and pharmaceutical quality, and efficiency is improved. The patent application also covers the **crystalline** xylitol product and novel edible, pharmaceutical and oral hygiene products containing xylitol. Specific applications quoted include the total or partial replacement of sucrose in confectionery, bakery products, cereals, desserts, jams and beverages. Preferred embodiments include chocolate, granulated or table-top sweeteners, chewing gums and ice creams.

SH ADDITIVES

CT APPLICATIONS; **CRYSTALLINE XYLITOL**; PATENT; PCT PATENT; POLYOLS; PRODUCTION; SWEETENERS; TABLE TOP SWEETENERS; XYLITOL

DED 13 Apr 2000

L5 ANSWER 25 OF 37 FROSTI COPYRIGHT 2002 LFRA  
 AN 501544 FROSTI  
 TI Bagasse-to-**xylitol** process: preliminary testing.  
 AU Saska M.; Chen F.; Vatelot A.  
 SO International Sugar Journal Cane Sugar Edition, 1999, (July), 101 (1207),  
 353-358 (14 ref.)  
 ISSN: 0020-8841  
 DT Journal  
 LA English  
 SL English; Spanish; French  
 AB Xylitol is a speciality ingredient in many low-sugar foods. Most  
 production is based on hydrogenation of xylose recovered from hardwood  
 liquors. Bagasse, a waste from the sugar industry, is a potential source  
 of xylitol. The principal steps in the production of xylitol from bagasse  
 have been evaluated in pilot facilities. Steps assessed included bagasse  
 hydrolysis, clarification of the bagasse hydrolysis liquor, sugar  
 recovery by ion-exchange chromatography, purification of the xylose  
 extract and hydrogenation of the purified xylose liquor. Although the  
 process has not been optimized, results indicated that the process was  
 technically feasible. Further work is required with respect to  
 hydrogenation, impurities removal and xylitol **crystallization**  
 before the process could be used commercially.  
 SH ADDITIVES  
 CT BAGASSE; HYDROGENATION; PROCESSING; SUGAR INDUSTRY WASTES; WASTES;  
 XYLITOL PRODUCTION  
 DED 26 Aug 1999

L5 ANSWER 26 OF 37 FROSTI COPYRIGHT 2002 LFRA  
 AN 468806 FROSTI  
 TI Viscous liquid compositions of **xylitol** and a process for  
 preparing them.  
 IN Duflot P.; Caboché J.-J.  
 PA Roquette Freres  
 SO United States Patent  
 PI US 5728225 B 19980317  
 AI 19961218  
 PRAI France 19930726  
 NTE 19980317  
 DT Patent  
 LA English  
 SL English  
 AB The disclosed compositions, which are non-**crystallizable** or  
 exhibit retarded **crystallization**, contain 51% to 80% xylitol,  
 0.1% to 44% D-arabitol and 5% to 48.9% non-reducing oligomers or polymers  
 of glucose. The compositions can be used as substitutes for sucrose  
 syrups in a variety of food and pharmaceutical applications.  
 SH ADDITIVES  
 CT ARABITOL; INGREDIENTS; SUCROSE SYRUP; SUGAR SUBSTITUTES; SYRUPS; US  
 PATENT; XYLITOL  
 DED 9 Jun 1998

L5 ANSWER 27 OF 37 FROSTI COPYRIGHT 2002 LFRA  
 AN 457633 FROSTI  
 TI Partially melt co-**crystallized xylitol**/sorbitol and a  
 process for obtaining the same.  
 IN Serpelloni M.; Croisier A.  
 PA Roquette Freres  
 SO United States Patent  
 PI US 5679398 B 19971021  
 AI 19950209  
 PRAI France 19901214

NTE 19971021  
DT Patent  
LA English  
SL English  
AB The invention relates to a directly compressible pulverulent composition based on xylitol and its use as a sweetening filling in tablets and confectionery products particularly chewing gum. The composition comprises a partially melt co-**crystallized** xylitol/sorbitol having improved properties of compressibility and flow compared with existing pulverulent products containing xylitol.  
CT CHEWING GUM; CONFECTIONERY; SWEETENERS; US PATENT; XYLITOL  
DED 16 Dec 1997

L5 ANSWER 28 OF 37 FROSTI COPYRIGHT 2002 LFRA  
AN 384354 FROSTI  
TI Viscous liquid **xylitol** compositions and method for preparing same.  
IN Duflot P.; Caboche J.-J.  
PA Roquette Freres  
SO European Patent Application  
PI EP 661930 A1  
WO 9502967 19950202  
DS AT; BE; CH; DE; DK; ES; GB; GR; IT; LI; LU; NL; SE  
AI 19940722  
PRAI France 19930726  
DT Patent  
LA French  
SL French; English  
AB Viscous liquid xylitol compositions are disclosed, which are uncrystallisable or **crystallise** slowly in the form of scarcely perceivable microcrystals. The compositions contain 51-80% xylitol, 0.1-44% D-arabitol, and 5-48.9% oligomers or polymers that cannot reduce glucose. The percentages relate to dry matter. The compositions have applications in cosmetics, pharmaceuticals and confectionery. The production method comprises microbiological transformation of glucose into D-arabitol and then D-xylulose, enzymic isomerisation of D-xylulose to a mixture of D-xylose and D-xylulose, and then catalytic hydrogenation of this mixture, all procedures taking place in the presence of oligomers and/or polymers of glucose.  
CT ARABITOL; EUROPEAN PATENT; LIQUIDS; PRODUCTION; SWEETENERS; XYLITOL  
DED 4 Oct 1995

L5 ANSWER 29 OF 37 FROSTI COPYRIGHT 2002 LFRA  
AN 336822 FROSTI  
TI Polyolefin composition containing ultrafine sorbitol and **xylitol** acetals.  
IN Manninon M.J.  
PA Milliken Research Corp.  
SO European Patent Application  
PI EP 569198 A1  
DS BE; DE; FR; GB; IT  
AI 19930429  
PRAI United States 19920501  
DT Patent  
LA English  
SL English  
AB This patent describes the use of sorbitol and xylitol as clarifying agents for **crystalline** polyolefin resins. A technique is outlined for processing of sorbitol and xylitol acetal clarifiers so that they can be compounded with polyolefin resins to produce a product with no 'white points' or bubbles, and without the use of excessive compounding temperatures, which can cause discoloration and odour.

CT CLARIFICATION; CLARIFYING AGENTS; PACKAGING; PATENTS; POLYOLEFIN  
PACKAGING PRODUCTS; POLYOLEFINS; SORBITOL; XYLITOL  
DED 18 Feb 1994

L5 ANSWER 30 OF 37 FROSTI COPYRIGHT 2002 LFRA  
AN 308414 FROSTI

TI Melt **crystallized** xylitol.

IN Duross J.W.

PA ICI Americas Inc.

SO European Patent Application

PI EP 529852 A1

DS AT; BE; CH; DE; DK; ES; FR; GB; GR; IT; LI; LU; NL; PT; SE

AI 19920807

PRAI United States 19910809

DT Patent

LA English

SL English

AB Traditionally produced xylitol is moisture sensitive and is thus prone to caking, making it difficult to use after storage. This invention relates to a novel form of **crystalline** xylitol, which is less sensitive to moisture pick-up and is thus easier to work with. The method for manufacturing this xylitol is described, and chewing gum compositions containing this melt **crystallised** xylitol are disclosed. These chewing gum compositions are reported to be less tacky and gritty than equivalent compositions containing traditionally manufactured xylitol.

CT ABSORPTION; CHEWING GUM; IMPROVEMENT; PATENTS; PRODUCTION; REDUCTION; SWEETENERS; TEXTURE; WATER; WATER SORPTION; XYLITOL

DED 14 Apr 1993

L5 ANSWER 31 OF 37 FROSTI COPYRIGHT 2002 LFRA  
AN 307373 FROSTI

TI Melt cocrystallized sorbitol/**xylitol** compositions.

IN Duross J.W.

PA ICI Americas Inc.

SO European Patent Application

PI EP 528604 A1

DS AT; BE; CH; DE; DK; ES; FR; GB; GR; IT; LI; LU; NL; PT; SE

AI 19920807

PRAI United States 19910809

DT Patent

LA English

SL English

AB Melt co-**crystallised** sorbitol/xylitol compositions, which offer improved processing properties relative to blends of **crystalline** sorbitol and xylitol, are described. Ingestible compositions, such as chewing gum and tablets, consisting of melt co-**crystallised** sorbitol/xylitol are also described, as in a method for their production. Such compositions allow the beneficial and cariogenic properties of xylitol to be incorporated more readily into confectionery products.

SH ADDITIVES

CT CHEWING GUM; COCRYSTALLISED; COMPOSITION; COMPOUNDS; CONFECTIONERY PRODUCTS; IMPROVED; MELT; PATENTS; PROCESSING; PRODUCTION; PROPERTIES; SORBITOL; XYLITOL

DED 26 Mar 1993

L5 ANSWER 32 OF 37 FROSTI COPYRIGHT 2002 LFRA  
AN 299088 FROSTI

TI A process for the simultaneous production of **xylitol** and ethanol.

IN Heikkila H.; Hyoky G.; Rahkila L.; Sarkki M.-L.; Viljava T.

PA Suomen Xyrofin Oy

SO European Patent Application

PI EP 511238 A1  
 WO 9110740 19910725  
 DS AT; BE; CH; DE; DK; ES; FR; GB; GR; IT; LI; LU; NL; SE  
 AI 19910110  
 PRAI Finland 19900115  
 DT Patent  
 LA English  
 SL English  
 AB In this process, xylitol and ethanol are produced simultaneously from a hydrolysed material containing lignocellulose. The starting material is fermented with a yeast strain and the ethanol produced is recovered. Chromatographic separation is performed on the remaining xylitol solution and pure xylitol is **crystallised**.  
 CT FERMENTATION; LIGNOCELLULOSES; PATENTS; PRODUCTION; RAW MATERIALS; SWEETENERS; XYLITOL  
 DED 1 Dec 1992

L5 ANSWER 33 OF 37 FROSTI COPYRIGHT 2002 LFRA  
 AN 136689 FROSTI  
 TI Properties of **xylitol**.  
 AU Voirol F.  
 SO Canadian Institute of Food Science and Technology Journal, 1985, 18 (1), xii-xiii.  
 DT Journal  
 AB The basic technological data available on xylitol are presented.  
 CT CARBOHYDRATES; COOLING; **CRYSTALLIZING**; D GLUCOSE; DAILY; DISSOLVING; FLAVOUR; FRUCTOSE; GLUCOSE; GROWTH; HEAT OF SOLUTION; INTAKE; INTENSITY; INTERACTIONS; METABOLISM; MICROORGANISMS; PRODUCTION; PROPERTIES; SOLUBILITY; SORBITOL; SPECIFIC HEAT; STRUCTURE; SUCROSE; SUGAR; SUGAR ALCOHOLS; SWEETNESS; XYLITOL  
 DED 5 Sep 1985

L5 ANSWER 34 OF 37 FROSTI COPYRIGHT 2002 LFRA  
 AN 98322 FROSTI  
 TI Food technological evaluation of **xylitol**.  
 AU Hyvonen L.; Koivistoinen P.  
 SO Advances in food research, vol 28. ed. Chichester C.O., Mrak E.M., Stewart G.F., Academic Press, 373-403 (82 ref. En)., 1982  
 DT Book Article  
 CT ABSORPTION; APPLICATIONS; BAKERY PRODUCTS; BOILING POINT; BROWNING; CALORIES; CHEWING GUM; CHOCOLATE; COATING; COATINGS; CONFECTIONERY; **CRYSTALLIZING**; DENSITY; ENZYMIC BROWNING; EXTRACTION; FERMENTATION; FLAVOUR; FUNCTIONAL PROPERTIES; GUM DROP; ICE CREAM; INTENSITY; JAMS; JELLY; MARMALADES; OCCURRENCE; PHYSIOLOGICAL PROPERTIES; PRODUCTION; PROPERTIES; PURIFICATION; REVIEW; SENSORY PROPERTIES; SOFT DRINKS; SOLUBILITY; SPECIFIC HEAT; STRUCTURE; SWEETENERS; SWEETNESS; TOFFEE; VISCOSITY; WATER; WATER SORPTION; XYLITOL; YOGHURT  
 DED 17 Jun 1983

L5 ANSWER 35 OF 37 FROSTI COPYRIGHT 2002 LFRA  
 AN 95908 FROSTI  
 TI **Xylitol**: food applications of a noncariogenic sugar substitute.  
 AU Voirol F.  
 SO Health and sugar substitutes: Proceedings of the ERGOB conference, 1978. ed. Guggenheim B. Karger, 130-7 (18 ref. En)., 1979  
 DT Conference Article  
 CT APPLICATIONS; CARIES; CHEWING GUM; CONFECTIONERY; COOLING; **CRYSTALLIZING**; FLAVOUR; INHIBITION; MICROORGANISMS; PREVENTION; PROPERTIES; REDUCTION; STABILITY; SWEETNESS; XYLITOL  
 DED 14 Dec 1982

L5 ANSWER 36 OF 37 FROSTI COPYRIGHT 2002 LFRA

AN 87077 FROSTI  
TI **Xylitol** properties and applications in foods and pharmaceuticals.  
AU VOIROL F.A.  
SO Carbohydrate sweeteners in foods and nutrition: Proceedings of a conference, Helsinki, 1978. ed. Koivistoinen P., Hyvonen L., Academic Press, 269-205 (31 ref. En)., 1980  
UDC, 547  
NTE 45:  
DT Miscellaneous  
CT APPLICATIONS; CHEMICAL PROPERTIES; **CRYSTALLIZING**; FLAVOUR; HYGROSCOPICITY; MELTING POINT; OCCURRENCE; PHYSICAL PROPERTIES; PRODUCTION; PROPERTIES; STABILITY; SWEETENERS; SWEETNESS; XYLITOL  
DED 1 Oct 1980

L5 ANSWER 37 OF 37 FROSTI COPYRIGHT 2002 LFRA  
AN 86511 FROSTI  
TI **Xylitol**, its properties and applications.  
AU Voirol F.A.  
SO In Sugar. Science and Technology. A symposium. University of Reading. April 1978, London Applied Sci. Pub. Ltd, 325-44 (30 ref.)., 1979  
UDC, 664  
NTE 1  
DT Miscellaneous  
CT APPLICATIONS; CARRIES; COATING; COATINGS; **CRYSTALLIZING**; FLAVOUR; MELTING POINT; PROPERTIES; SOLUBILITY; STABILITY; SUGAR; SWEETENERS; SWEETENING AGENT; SWEETNESS; TABLETS; XYLITOL  
DED 1 Oct 1980

=> d his

(FILE 'HOME' ENTERED AT 14:45:13 ON 19 MAR 2002)

FILE 'FSTA, FROSTI' ENTERED AT 14:45:30 ON 19 MAR 2002

L1 1598 S XYLITOL#  
L2 16473 S CRYSTAL?  
L3 128 S L1 AND L2  
L4 503 S L1/TI  
L5 37 S L4 AND L2

=> s 12/ti

L6 3838 L2/TI

=> s 11 and 16

L7 16 L1 AND L6

=> d 1-16 all

L7 ANSWER 1 OF 16 FSTA COPYRIGHT 2002 IFIS  
AN 2000(06):L0276 FSTA  
TI **Crystallization of xylitol, crystalline** product and use thereof.  
IN Heikkila, H.; Nygren, J.; Sarkki, M. L.; Gros, H.; Eroma, O. P.; Pearson, J.; Pepper, T.  
PA Xyrofin Oy; Xyrofin, FIN-48101 Kotka, Finland  
SO PCT International Patent Application, (1999)  
PI WO 9959426 A2  
PRAI FI 1998-1104 19980518  
DT Patent  
LA English  
AB A process for crystallization of **xylitol** is described and novel



properties of the crystalline product and its uses in confectionery, foods, pharmaceuticals and oral hygiene products are detailed. The crystallization process involves: contact between a **xylitol** solution and **xylitol** particles suspended in a gas; production of microcrystals; and conditioning into an agglomerated product.

CC L (Sugars, Syrups and Starches)  
CT BAKERY PRODUCTS; CRYSTALLIZATION; PATENTS; SUGAR CONFECTIONERY;  
**XYLITOL**; CONFECTIONERY; FOODS

L7 ANSWER 2 OF 16 FSTA COPYRIGHT 2002 IFIS

AN 1993(03):K0024 FSTA

TI Melt **crystallized xylitol**.

IN DuRoss, J. W.

PA ICI Americas Inc.; ICI Americas, Wilmington, DE, USA

SO United States Patent, (1992)

PI US 5139795

PRAI US @@@-743487 19910809

DT Patent

LA English

AB Melt crystallized **xylitol** (MCX) for use in chewing gum or tablet preparations is described. MCX is characterized by an agglomerated crystal structure with a surface area of at least 0.12 m.sup.2 g.sup.-.sup.1, as determined by SEM, and a relatively high hardness value on compression. Chewing gums containing MCX are less sticky and gritty than those containing equal amounts of conventional aqueous crystallized **xylitol** of similar particle size distribution.

CC K (Cocoa and Chocolate and Sugar Confectionery Products)

CT CARBOHYDRATES; CHEWING GUMS; PATENTS; POLYOLS; SUGAR CONFECTIONERY;  
**XYLITOL**; SUGAR ALCOHOLS

L7 ANSWER 3 OF 16 FSTA COPYRIGHT 2002 IFIS

AN 1981(10):L0712 FSTA

TI Process for recovering **xylitol** from end syrups of the **xylitol** crystallization.

IN Munir, M.; Schiweck, H.

PA Sueddeutsche Zucker AG

SO United States Patent, (1981)

PI US 4246431

DT Patent

LA English

AB Process is described for extracting **xylitol** from the end syrups of **xylitol** crystallization by subjecting the end syrup to chromatographic separation, the syrup being degraded into .gtoreq.2 fractions, the 1st fraction containing mainly polysaccharides and polysaccharide alcohols, and the subsequent fractions mainly containing the pentitols and hexitols.

CC L (Sugars, Syrups and Starches)

CT CRYSTALLIZATION; PATENTS; SUGAR SYRUPS; SWEETENERS; **XYLITOL**;  
PATENT; RECOVERY; SYRUPS

L7 ANSWER 4 OF 16 FROSTI COPYRIGHT 2002 LFRA

AN 559654 FROSTI

TI Non-**crystallizing** liquid **xylitol** compositions and co-hydrogenation processes for making same.

IN Cunningham M.L.; Kuenzle C.E.; Yang M.; Jamieson P.

PA SPI Polyols Inc.

SO European Patent Application

PI EP 1112004 A1 20000323

AI 19990909

PRAI United States 19980910

NTE 20000323

DT Patent

LA English  
SL English  
AB A non-crystallizing liquid **xylitol** composition is described.  
The composition comprises cohydrogenated **xylitol** and sorbitol  
and can be used in dental products, confectionery, chewing gum and fruit  
syrup.  
SH ADDITIVES  
CT CHEWING GUM; CONFECTIONERY; EMULSIFIERS; EUROPEAN PATENT; FRUIT PRODUCTS;  
FRUIT SYRUPS; HUMECTANTS; HYDROGENATION; PATENT; POLYOLS; SORBITOL; SUGAR  
CONFECTIONERY; SURFACTANTS; SWEETENERS; **XYLITOL**  
DED 31 Jul 2001

L7 ANSWER 5 OF 16 FROSTI COPYRIGHT 2002 LFRA  
AN 551930 FROSTI  
TI **Crystallization of xylitol, crystalline**  
**xylitol** product and use thereof.  
IN Heikkila H.; Nygren J.; Sarkki M.-L.; Gros H.; Eroma O.-P.; Pearson J.;  
Pepper T.  
PA Xyrofin Oy  
SO European Patent Application  
PI EP 1080060 A2  
WO 9959426 19991125  
AI 19990517  
PRAI Finland 19980518  
DT Patent  
LA English  
SL English  
AB A novel process for the production of crystalline **xylitol**  
suitable for food and pharmaceutical applications is presented. Among  
the advantages offered by the process are that it requires only a single  
operation, the product is of food and pharmaceutical quality, and  
efficiency is improved. The patent application also covers the  
crystalline **xylitol** product and novel edible, pharmaceutical  
and oral hygiene products containing **xylitol**. Specific  
applications quoted include the total or partial replacement of sucrose  
in confectionery, bakery products, cereals, desserts, jams and beverages.  
Preferred embodiments include chocolate, granulated or table-top  
sweeteners, chewing gums and ice creams.  
SH ADDITIVES  
CT APPLICATIONS; CRYSTALLINE **XYLITOL**; EUROPEAN PATENT; PATENT;  
POLYOLS; PRODUCTION; SWEETENERS; TABLE TOP SWEETENERS; **XYLITOL**  
DED 15 May 2001

L7 ANSWER 6 OF 16 FROSTI COPYRIGHT 2002 LFRA  
AN 523354 FROSTI  
TI Low temperature non-crystallizing liquid **xylitol**  
compositions and co-hydrogenation processes for making same.  
IN Cunningham M.L.; Kuenzle C.E.; Yang M.; Jamieson P.  
PA SPI Polyol Inc.  
SO PCT Patent Application  
PI WO 2000015236 A1 20000323  
AI 19990909  
PRAI United States 19980910  
NTE 20000323  
DT Patent  
LA English  
SL English  
AB Liquid **xylitol** compositions that are non-crystallizing at low  
temperatures comprise **xylitol** and sorbitol. These are useful in  
confectionery products such as chewing gum and candies. A  
co-hydrogenation process for producing these compositions is also  
described.

CT CONFECTIONERY; EMULSIFIERS; HUMECTANTS; PATENT; PCT PATENT; POLYOLS;  
SORBITOL; SURFACTANTS; SWEETENERS; **XYLITOL**  
DED 9 Jun 2000

L7 ANSWER 7 OF 16 FROSTI COPYRIGHT 2002 LFRA  
AN 523343 FROSTI

TI Non-crystallizing liquid **xylitol** compositions and  
co-hydrogenation processes for making same.  
IN Cunningham M.L.; Kuenzle C.E.; Yang M.; Jamieson P.  
PA SPI Polyol Inc.  
SO PCT Patent Application  
PI WO 2000015048 A1 20000323  
AI 19990909

PRAI United States 19980910  
NTE 20000323

DT Patent  
LA English  
SL English

AB A non-crystallizing liquid **xylitol** composition is described.  
The composition comprises cohydrogenated **xylitol** and sorbitol  
and can be used in dental products, confectionery, chewing gum and fruit  
syrup.

SH ADDITIVES

CT CHEWING GUM; CONFECTIONERY; EMULSIFIERS; FRUIT PRODUCTS; FRUIT SYRUPS;  
HUMECTANTS; HYDROGENATION; PATENT; PCT PATENT; POLYOLS; SORBITOL; SUGAR  
CONFECTIONERY; SURFACTANTS; SWEETENERS; **XYLITOL**

DED 9 Jun 2000

L7 ANSWER 8 OF 16 FROSTI COPYRIGHT 2002 LFRA  
AN 517925 FROSTI

TI Crystallization of **xylitol**, crystalline  
**xylitol** product and use thereof.

IN Heikkila H.; Nygren J.; Sarkki M.-L.; Gros H.; Eroma O.-P.; Pearson J.;  
Pepper T.  
PA Xyrofin Oy  
SO PCT Patent Application  
PI WO 9959426 A2  
AI 19990517

PRAI Finland 19980518

DT Patent  
LA English  
SL English

AB A novel process for the production of crystalline **xylitol**  
suitable for food and pharmaceutical applications is presented. Among  
the advantages offered by the process are that it requires only a single  
operation, the product is of food and pharmaceutical quality, and  
efficiency is improved. The patent application also covers the  
crystalline **xylitol** product and novel edible, pharmaceutical  
and oral hygiene products containing **xylitol**. Specific  
applications quoted include the total or partial replacement of sucrose  
in confectionery, bakery products, cereals, desserts, jams and beverages.  
Preferred embodiments include chocolate, granulated or table-top  
sweeteners, chewing gums and ice creams.

SH ADDITIVES

CT APPLICATIONS; CRYSTALLINE **XYLITOL**; PATENT; PCT PATENT; POLYOLS;  
PRODUCTION; SWEETENERS; TABLE TOP SWEETENERS; **XYLITOL**

DED 13 Apr 2000

L7 ANSWER 9 OF 16 FROSTI COPYRIGHT 2002 LFRA  
AN 477142 FROSTI

TI Crystalline anhydrous lactitol and a process for the  
preparation thereof as well as use thereof.

TN Heikkila H.O.; Nurmi J.V.; Pepper T.  
PA Xyrofin Oy  
SO United States Patent  
PI US 5779806 B 19980714  
AI 19950908  
PRAI Finland 19910322  
NTE 19980714  
DT Patent  
LA English  
SL English  
AB Lactitol is a sweetener that does not cause an elevated blood glucose content, is tooth-friendly and has half the calorific value of saccharose. The crystalline anhydrous lactitol of this invention is prepared from an aqueous solution having a lactitol content of more than 70%, by evaporating and optionally seeding, followed by cooling from 95 C to 80 C. The crystals are separated, washed and dried. The lactitol obtained has low hygroscopicity, good flowability and good storability, and dissolves rapidly in water. If the lactitol is combined with other sweeteners, such as saccharin or **xylitol**, a sweetener resembling sugar, but with a lower calorie content, can be prepared. This sweetener can be used as a substitute for sugar in sweets, jams, bakery products, chocolate, juices, chewing gum and ice creams.  
SH ADDITIVES  
CT ANHYDROUS LACTITOL; LACTITOL; PATENT; SUGAR SUBSTITUTES; SWEETENERS; US PATENT  
DED 13 Oct 1998

L7 ANSWER 10 OF 16 FROSTI COPYRIGHT 2002 LFRA  
AN 457633 FROSTI  
TI Partially melt co-crystallized **xylitol**/sorbitol and a process for obtaining the same.  
IN Serpelloni M.; Croisier A.  
PA Roquette Freres  
SO United States Patent  
PI US 5679398 B 19971021  
AI 19950209  
PRAI France 19901214  
NTE 19971021  
DT Patent  
LA English  
SL English  
AB The invention relates to a directly compressible pulverulent composition based on **xylitol** and its use as a sweetening filling in tablets and confectionery products particularly chewing gum. The composition comprises a partially melt co-crystallized **xylitol**/sorbitol having improved properties of compressibility and flow compared with existing pulverulent products containing **xylitol**.  
CT CHEWING GUM; CONFECTIONERY; SWEETENERS; US PATENT; **XYLITOL**  
DED 16 Dec 1997

L7 ANSWER 11 OF 16 FROSTI COPYRIGHT 2002 LFRA  
AN 408252 FROSTI  
TI **Crystalline** anhydrous lactitol and a process for the preparation thereof as well as use thereof.  
IN Heikki O.; Nurmi J.V.; Pepper T.  
PA Xyrofin OY  
SO United States Patent  
PI US 5494525 B 19960227  
WO 9216542 19920110  
AI 19920319  
PRAI Finland 19910322  
NTE 19960227

DT Patent  
LA English  
SL English  
AB The lactitol is prepared by crystallisation from an aqueous solution that has a lactitol content of preferably more than 90%. The lactitol obtained has good flowability and storability characteristics, and is stable at room temperature. It is suitable for use as a sugar substitute in foodstuffs and sweets, including jams, bakery products, juices, chewing gums, ice creams and particularly chocolate. By combining the lactitol with other sweeteners, such as saccharin or **xylitol**, a sweetener resembling sugar can be prepared, which has a lower energy content and is not harmful to the teeth.

CT CALORIES; CONFECTIONERY; CRYSTALLIZATION; LACTITOL; LOW; LOW CALORIE; LOW CALORIE CONFECTIONERY; LOW CALORIE SUBSTITUTES; LOW CALORIE SWEETENERS; LOW QUANTITY; LOW SUGAR; SUBSTITUTES; SUGAR; SUGAR SUBSTITUTES; SUGARS; SWEETENERS; US PATENT

DED 17 May 1996

L7 ANSWER 12 OF 16 FROSTI COPYRIGHT 2002 LFRA  
AN 398805 FROSTI

TI **Crystallised** soft candy containing sugar alcohol.

IN Suzuki M.; Okamoto T.; Gomi T.

PA T. Hasegawa Co. Ltd

SO Japanese Patent Application

PI JP 07123923 A 19950516

AI 19931105

NTE 19950516

DT Patent

LA Japanese

SL English

AB This new soft candy containing erythritol has comparable flavour and mouthfeel to soft candy made with sucrose. The candy does not adhere to the teeth, and it is calorie-reduced and non-cariogenic. The candy contains a sugar alcohol mixture of 15-50% erythritol, plus **xylitol** and sorbitol. To an aqueous solution of this mixture is added hardened vegetable oil, emulsifiers and other ingredients. The mix is homogenised and the crystals are precipitated slowly while kneading at 60-80 C. This is then used as the candy base.

CT ERYTHRITOL; JAPANESE PATENT; SOFT; SUGAR FREE; SWEET

DED 18 Jan 1996

L7 ANSWER 13 OF 16 FROSTI COPYRIGHT 2002 LFRA

AN 308414 FROSTI

TI Melt **crystallized xylitol**.

IN Duross J.W.

PA ICI Americas Inc.

SO European Patent Application

PI EP 529852 A1

DS AT; BE; CH; DE; DK; ES; FR; GB; GR; IT; LI; LU; NL; PT; SE

AI 19920807

PRAI United States 19910809

DT Patent

LA English

SL English

AB Traditionally produced **xylitol** is moisture sensitive and is thus prone to caking, making it difficult to use after storage. This invention relates to a novel form of crystalline **xylitol**, which is less sensitive to moisture pick-up and is thus easier to work with. The method for manufacturing this **xylitol** is described, and chewing gum compositions containing this melt crystallised **xylitol** are disclosed. These chewing gum compositions are reported to be less tacky and gritty than equivalent compositions

containing traditionally manufactured **xylitol**.  
 CT ABSORPTION; CHEWING GUM; IMPROVEMENT; PATENTS; PRODUCTION; REDUCTION;  
 SWEETENERS; TEXTURE; WATER; WATER SORPTION; **XYLITOL**  
 DED 14 Apr 1993

L7 ANSWER 14 OF 16 FROSTI COPYRIGHT 2002 LFRA  
 AN 194137 FROSTI  
 TI Sweetener functions **crystallize** formulation options.  
 AU Best D.  
 SO Prepared Foods, 1988, 157 (11), 70-4 (4pp.)  
 DT Journal  
 LA English  
 AB Evaluating sweeteners for use in food products is discussed. Technical issues that must be considered when evaluating sweetener systems include chemical reactivity, physical functionality, quality attributes and process interactions. The range of sweeteners available is described and advice given on designing flavour profiles, textural considerations, controlling water migration, solubility, freezing point depression, preservation effects and controlling colour effects.

CT ACESULFAM K; APPLICATION; ASPARTAME; COLOUR; D; DISACCHARIDE; EVALUATING;  
 FACTOR AFFECTING; FLAVOUR; FREEZING POINT DEPRESSION; FRUCTOSE;  
 FRUCTOSE; GLUCOSE; HIGH; HYDROGENATED; LACTOSE; MAIZE; MALTOSE; MANNITOL;  
 MICROORGANISM; MONOSACCHARIDE; POLYDEXTROSE; POLYSACCHARIDE; PRESERVING;  
 SACCHARIN; SOLUBILITY; SORBITOL; SUCROSE; SUGAR; SUGAR ALCOHOL;  
 SWEETENING; SWEETENING AGENT; SYRUP; TEXTURE; TRANSFERRING; TYPE; WATER;  
**XYLITOL**  
 DED 20 Jan 1989

L7 ANSWER 15 OF 16 FROSTI COPYRIGHT 2002 LFRA  
 AN 124393 FROSTI  
 TI Differences in the **crystallization**-resistance between invert and high fructose-glucose syrup and their softening effect.  
 AU Keyzers H.  
 SO Review for Chocolate, Confectionery and Bakery, 1983, 8 (4), 16-8  
 DT Journal  
 LA English  
 AB In this discussion of the solubility and the crystallisation resistance of sugars, the saturation points of sugar/dextrose solutions at different temperatures are given. The importance of the hygroscopicity of various sugars, as measured by the Equilibrium Humidity value (EH-value), in confectionery processing is also briefly discussed.

CT ABSORPTION; CHEMICAL PROPERTIES; CONFECTIONERY; CRYSTALLIZING; ERH;  
 FRUCTOSE; FUNCTIONAL PROPERTIES; GLUCOSE; GLUCOSE SOLUTION; GLUCOSE SYRUP; HYGROSCOPICITY; INVERT SUGAR; LACTOSE; LOSS; PROPERTIES; SATURATION POINT; SOLUBILITY; SOLUTIONS; SORBITOL; SUCROSE; SUCROSE SOLUTION; SUCROSE SYRUP; SUGAR; SUGAR SOLUTIONS; SUGARS; SYRUPS; TEMPERATURE; WATER; WATER SORPTION; **XYLITOL**  
 DED 26 Mar 1984

L7 ANSWER 16 OF 16 FROSTI COPYRIGHT 2002 LFRA  
 AN 109157 FROSTI  
 TI Differences in the consistency of **crystallisation** of invert sugar and high-fructose glucose syrups and their influence on the softness of the product.  
 AU Keyzers H.  
 SO Zucker und Susswaren Wirtschaft, 1982, 35 (5), 147-8  
 DT Journal  
 LA German  
 SL German; English; French  
 AB The solubility of sucrose and other sugars is affected by temperature, but also by the presence of other sugars. Sucrose can be crystallised by lowering the temperature of a saturated solution or by adding

monosaccharide to an optimally balanced mixture. This behaviour is considered in depth. The 'softening' effect of sugars and its dependence on their hygroscopicity is discussed.

CT CONFECTIONERY; CRYSTALLIZING; D GLUCOSE; FIRMNESS; FRUCTOSE; FRUCTOSE SOLUTION; GLUCOSE; GLUCOSE SOLUTION; HARDNESS; HYGROSCOPICITY; INVERT SUGAR; LACTOSE; MIXTURES; SOLUBILITY; SOLUTIONS; SORBITOL; SUCROSE; SUCROSE SOLUTION; SUGAR; SUGAR ALCOHOLS; SUGAR FREE CONFECTIONERY; SUGAR SOLUTIONS; TEMPERATURE; **XYLITOL**

DED 2 Mar 1983

=> file uspatall  
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
78.65	78.80

FULL ESTIMATED COST

FILE 'USPATFULL' ENTERED AT 14:47:34 ON 19 MAR 2002  
CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 14:47:34 ON 19 MAR 2002  
CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

=> s 13

L8 2461 L3

=> s 11/clm

L9 923 L1/CLM

=> s 12/clm

L10 79641 L2/CLM

=> s 19 and 110

L11 98 L9 AND L10

=> s 11/ti

L12 63 L1/TI

=> s 111 and 112

L13 21 L11 AND L12

=> s 12/ti and 113

L14 4 L2/TI AND L13

=> d 1-4

L14 ANSWER 1 OF 4 USPATFULL

AN 97:96604 USPATFULL

TI Partially melt co-crystallized xylitol/sorbitol and  
a process for obtaining the same

IN Serpelloni, Michel, Beuvry les Bethune, France  
Croisier, Alain, Locon, France

PA Roquette Freres, Lestrem, France (non-U.S. corporation)

PI US 5679398 19971021

AI US 1995-385786 19950209 (8)

RLI Continuation of Ser. No. US 1993-141090, filed on 26 Oct 1993, now  
abandoned which is a continuation of Ser. No. US 1991-807128, filed on  
16 Dec 1991, now patented, Pat. No. US 5385749

PRAI FR 1990-15708 19901214

DT Utility

FS Granted

LN.CNT 678

INCL INCLM: 426/658.000

INCLS: 426/660.000  
NCL NCLM: 426/658.000  
NCLS: 426/660.000  
IC [6]  
ICM: A23G003-00  
EXF 426/658; 426/660  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 2 OF 4 USPATFULL  
AN 92:68027 USPATFULL  
TI Melt **crystallized xylitol**  
IN DuRoss, James W., Smryna, DE, United States  
PA ICI Americas Inc., Wilmington, DE, United States (U.S. corporation)  
PI US 5139795 19920818  
AI US 1991-743487 19910809 (7)  
DT Utility  
FS Granted  
LN.CNT 438  
INCL INCLM: 426/003.000  
INCLS: 426/454.000; 426/658.000; 426/660.000; 127/029.000; 568/868.000  
NCL NCLM: 426/003.000  
NCLS: 127/029.000; 426/454.000; 426/658.000; 426/660.000; 568/868.000  
IC [5]  
ICM: A23G003-30  
ICS: A23L001-09; A23P001-02  
EXF 426/658; 426/454; 426/660; 426/96; 127/29; 536/4.1; 536/18.6; 568/863;  
568/852; 568/868

L14 ANSWER 3 OF 4 USPATFULL  
AN 81:3984 USPATFULL  
TI Process for recovering **xylitol** from end syrups of the  
**xylitol crystallization**  
IN Munir, Mohammad, Obrigheim, Germany, Federal Republic of  
Schiweck, Hubert, Worms, Germany, Federal Republic of  
PA Suddeutsche Zucker-Aktiengesellschaft, Mannheim, Germany, Federal  
Republic of (non-U.S. corporation)  
PI US 4246431 19810120  
AI US 1979-47719 19790612 (6)  
PRAI DE 1978-2826120 19780614  
DT Utility  
FS Granted  
LN.CNT 278  
INCL INCLM: 568/872.000  
INCLS: 568/863.000; 127/046.000A  
NCL NCLM: 568/872.000  
NCLS: 127/046.200; 568/863.000  
IC [3]  
ICM: C07C031-26  
EXF 568/872; 568/863  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 4 OF 4 USPATFULL  
AN 76:55828 USPATFULL  
TI Aqueous **crystallization of xylitol**  
IN Jaffe, Gerald Myer, Verona, NJ, United States  
Weinert, Peter Hans, Wayne, NJ, United States  
PA Hoffmann-La Roche Inc., Nutley, NJ, United States (U.S. corporation)  
PI US 3985815 19761012  
AI US 1974-519446 19741031 (5)  
RLI Continuation of Ser. No. US 1972-296404, filed on 10 Oct 1972, now  
abandoned  
DT Utility



FS      Granted

LN.CNT 276

INCL    INCLM: 260/637.000R

INCLS: 127/037.000; 260/635.000C; 426/658.000

NCL    NCLM: 568/868.000

NCLS: 127/037.000; 426/658.000; 568/863.000

IC      [2]

ICM: C07C027-26

ICS: C07C029-24

EXF    260/635C; 260/637R

CAS INDEXING IS AVAILABLE FOR THIS PATENT.